

REMARKS

In the Office Action dated March 2, 2004, claims 2 and 27-29 were rejected under 35 U.S.C. § 103 over Metcalfe (US 2002/0166668) in view of Miyake (U.S. Patent No. 6,056,835); claims 30-32 were rejected under § 103 over Metcalfe and Mohaupt (U.S. Patent No. 4,081,031); claim 33 was rejected under § 103 over Metcalfe and Miyake in view of Gonzalez (U.S. Patent No. 6,474,414); claims 3, 35, and 36 were rejected under § 103 over Arizmendi (U.S. Patent No. 5,941,313) in view of Miyake; claim 5 was rejected under § 103 over Owen (U.S. Patent No. 3,712,376) in view of Miyake; claim 38 was rejected under § 103 over Owen and Miyake and Mohaupt; claim 6 was rejected under § 103 over Reid (U.S. Patent No. 6,109,355) in view of Miyake; claim 7 was rejected under § 103 over either Brieger (U.S. Patent No. 4,122,899) in view of Miyake or Thompson (U.S. Patent No. 6,454,001) in view of Miyake; claims 8, 10, 11, and 39 were rejected under § 103 over Mohaupt in view of Miyake; claim 9 was rejected under § 103 over Mohaupt and Miyake in view of Henning (U.S. Patent No. 4,042,019); claim 37 was rejected under § 103 over Metcalfe in view of Miyake and Mohaupt; claims 40 and 41 were rejected under § 103 over Timmons (U.S. Patent No. 3,380,528) in view of Miyake; and claims 42 and 43 were rejected under § 103 over Nobileau (U.S. Patent No. 5,979,560) in view of Miyake.

Applicant acknowledges the indication that claim 34 would be allowable if rewritten in independent form.

REJECTIONS UNDER 35 U.S.C. § 103

In the present Office Action, various references were combined with Miyake to reject the claims as being obvious. Miyake was cited to teach superplastic materials. The other references were cited to teach various downhole components or tools. However, the Office Action has failed to establish that there is any motivation or suggestion to combine the references with Miyake in the manner proposed by the Office Action.

Independent claim 2 was rejected as being obvious over Metcalfe and Miyake. Claim 2 recites an apparatus that has an element formed of a superplastic material to perform a predetermined downhole task, and a component including a seal engageable with the element. Metcalfe was cited as disclosing the seal, while Miyake was cited as

disclosing a superplastic material. Based on these teachings, the Office Action asserted that "it would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Metcalfe et al. such that the element was made from a superplastic material such as taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10)." 3/2/2004 Office Action at 2.

It is well established law that "[t]he mere fact that the prior art could be so modified would not have made the modification **obvious** unless the prior art suggested the **desirability** of the modification. *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125 (Fed. Cir. 1984) (emphasis added). As the Federal Circuit has stated, "virtually all [inventions] are combinations of old elements." *In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453 (Fed. Cir. 1998). "Most, if not all, inventions are combinations and mostly of old elements." *Id.* "Therefore an examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be 'an illogical and inappropriate process by which to determine patentability.'" *Id.*

Although Metcalfe describes forming its liner with a ductile material, there is absolutely no suggestion anywhere within Metcalfe that its liner can be formed of a superplastic material. Miyake describes a superplastic material, but there is absolutely no suggestion anywhere within Miyake of using its superplastic material to form an element that is engageable with a seal to perform a predetermined downhole task. The Office Action does not cite to any other knowledge that would have been possessed by persons of ordinary skill in the art to provide the necessary motivation or suggestion to combine the reference teachings. The combination of the unrelated teachings of Metcalfe and Miyake is a classic example of using impermissible hindsight to combine reference teachings, where no motivation or suggestion existed of the proposed combination.

If the use of superplastic materials in downhole applications would have been so obvious as suggested by the Examiner, then why did Metcalfe not propose or even remotely suggest the use of such a superplastic materials? The fact that Metcalfe used a different solution to achieve Metcalfe's objectives is clear (and objective) evidence that there did not exist any motivation or suggestion to use superplastic materials in the Metcalfe apparatus. Therefore, a *prima facie* case of obviousness has not been established with respect to claim 2.

In view of the fact that there is no motivation or suggestion to combine Metcalfe and Miyake, it is respectfully submitted that the obviousness rejection of independent claim 37 is also defective.

The same is true also of the rejection of independent claim 3 over Arizmendi and Miyake. Although Arizmendi describes a packer, Arizmendi makes no mention whatsoever of using a superplastic material in its packer. Miyake describes a superplastic material, but there is absolutely no suggestion anywhere within Miyake of using its superplastic material to form an element that can actuate an anchor. The Office Action does not cite to any other knowledge that would have been possessed by persons of ordinary skill in the art to provide the necessary motivation or suggestion to combine the reference teachings. Therefore, a *prima facie* case of obviousness has not been established with respect to claim 3.

The obviousness rejection of independent claim 5 over Owens and Miyake is also defective. Although Owens describes a liner that can be used as a sand screen, Owens makes no mention whatsoever of using a superplastic material in its sand screen. Miyake describes a superplastic material, but there is absolutely no suggestion anywhere within Miyake of using its superplastic material to form an element that is part of a sand screen. The Office Action does not cite to any other knowledge that would have been possessed by persons of ordinary skill in the art to provide the necessary motivation or suggestion to combine the reference teachings. Therefore, a *prima facie* case of obviousness has not been established with respect to claim 5.

There is also no motivation or suggestion to combine Reid and Miyake to achieve the invention of independent claim 6. Although Reid describes a bottom sub 18 formed of a material to lessen potential impact damage with well tools, Reid makes no mention

whatsoever of using a superplastic material in its sub. Miyake describes a superplastic material, but there is absolutely no suggestion anywhere within Miyake of using its superplastic material to form an element that is part of a shock absorber. The Office Action does not cite to any other knowledge that would have been possessed by persons of ordinary skill in the art to provide the necessary motivation or suggestion to combine the reference teachings. Therefore, a *prima facie* case of obviousness has not been established with respect to claim 6.

The obviousness rejections of independent claim 7 over Brieger and Miyake and over Thompson and Miyake are also defective. Although Brieger describes a shear pin, Brieger makes no mention whatsoever of using a superplastic material in its shear pin. Similarly, although Thompson describes a shear sub, Thompson makes no mention whatsoever of using a superplastic material in its shear sub. Miyake describes a superplastic material, but there is absolutely no suggestion anywhere within Miyake of using its superplastic material to form an element that is part of a releasable connector mechanism. The Office Action does not cite to any other knowledge that would have been possessed by persons of ordinary skill in the art to provide the necessary motivation or suggestion to combine the reference teachings. Therefore, a *prima facie* case of obviousness has not been established with respect to claim 7.

The obviousness rejections of independent claims 8, 10, and 11 over Mohaupt and Miyake are also defective. With respect to claim 8, Mohaupt does not teach an explosive element—contrary to the assertion of the Office Action. Mohaupt describes a chemical charge 10 that can be ignited. Mohaupt, 3:44-48. Ignition of the chemical charge 10 causes production of gas pressure-volume bubble or pulse 16. Mohaupt, 3:48-50. However, the chemical charge 10 is *not* an explosive element. On at least this basis alone, the obviousness rejection of Mohaupt and Miyake is defective.

Moreover, Mohaupt makes no suggestion whatsoever that the housing for the chemical charge 10 can be formed of a superplastic material. Miyake describes a superplastic material, but there is absolutely no suggestion anywhere within Miyake of using its superplastic material to form an element that is part of an explosive component. The Office Action does not cite to any other knowledge that would have been possessed by persons of ordinary skill in the art to provide the necessary motivation or suggestion to

combine the reference teachings. Therefore, a *prima facie* case of obviousness has not been established with respect to claim 8.

With respect to claim 10, Mohaupt makes no suggestion whatsoever that the weakened portion of its housing can include a superplastic material. Miyake describes a superplastic material, but there is absolutely no suggestion anywhere within Miyake of using its superplastic material to form an element that is part of a weak point connector. The Office Action does not cite to any other knowledge that would have been possessed by persons of ordinary skill in the art to provide the necessary motivation or suggestion to combine the reference teachings. Therefore, a *prima facie* case of obviousness has not been established with respect to claim 10.

With respect to claim 11, although Mohaupt describes an ignitor 30 to initiate combustion of a chemical generator mixture 28, there is no suggestion anywhere in Mohaupt that its heating device heats an element formed of a superplastic material to cause the element to exhibit superplastic behavior. Miyake does not provide any suggestion of a heating device to heat an element for performing a downhole task to a temperature to cause the element to exhibit superplastic behavior.

The obviousness rejection of independent claim 40 over Timmons and Miyake is also defective. Although Timmons describes a gripping tool for use in a well, Timmons makes no mention whatsoever of using a superplastic material in its gripping tool. Miyake describes a superplastic material, but there is absolutely no suggestion anywhere within Miyake of using its superplastic material to form an element that is part of a fishing tool for a downhole conduit structure. The Office Action does not cite to any other knowledge that would have been possessed by persons of ordinary skill in the art to provide the necessary motivation or suggestion to combine the reference teachings. Therefore, a *prima facie* case of obviousness has not been established with respect to claim 40.

The obviousness rejection of independent claim 42 over Nobileau and Miyake is also defective. Although Nobileau describes a junction apparatus that is plastically deformable, Nobileau makes no mention whatsoever of using a superplastic material in its junction apparatus. Miyake describes a superplastic material, but there is absolutely no suggestion anywhere within Miyake of using its superplastic material to form an

element that is part of a junction apparatus. The Office Action does not cite to any other knowledge that would have been possessed by persons of ordinary skill in the art to provide the necessary motivation or suggestion to combine the reference teachings.

Moreover, there is no teaching in either Nobileau or Miyake of a heating device to heat the element (which is part of the junction seal assembly) to a temperature such that the element exhibits superplasticity, as recited in claim 42. Therefore, a *prima facie* case of obviousness has not been established with respect to claim 42.

Dependent claims are allowable for at least the same reasons as corresponding independent claims.

In view of the foregoing, allowance of all claims is respectfully submitted. The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 20-1504 (SHL.0102US).

Respectfully submitted,

Date: June 1, 2004



Dan C. Hu
Reg. No. 40,025
TROP, PRUNER & HU, P.C.
8554 Katy Freeway, Ste. 100
Houston, TX 77024
713/468-8880 [Phone]
713/468-8883 [Fax]